

February 20, 2015

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VIA EMAIL ([April.Webb@ky.gov](mailto:April.Webb@ky.gov)) AND FIRST CLASS MAIL

April J. Webb, P. E. Manager  
Kentucky Department for Environmental Protection  
Division of Waste Management  
200 Fair Oaks Lane  
Frankfort, Kentucky 40601

RE: Additional Investigation Requested Robert Bosch Tool Corporation  
Leitchfield, Grayson County, Kentucky Agency Interest #1579

Dear Ms. Webb:

In response to your correspondence dated January 22, 2015 with its attached comments pertaining to recommended additional sampling at the above-referenced facility, we herewith submit the following on behalf of our client, the Robert Bosch Tool Corporation (RBTC).

It is important to note that since the 2012 initial soil gas and air sampling events, two rounds of remedial injections have occurred onsite and potential source areas have been discovered and remediated. The following significant site changes have occurred since the April – June 2012 soil gas and air sampling events were conducted:

- A remnant portion of the former degreaser pit was discovered and remediated. A remnant portion of a former degreaser pit was discovered in October 2012 during remedial injection activities. During plant closure activities, the pit had been covered with concrete but had not been completely cleaned out and filled prior to being closed. After discovery by Amec Foster Wheeler, the liquid and solid contents of the pit and sump at the bottom of the pit were removed, injection points were installed through the bottom of the pit, BOS 100 was injected underneath the former degreaser pit and the pit was backfilled and capped in October and November 2012.
- Remnant wastewater pits were discovered and remediated. Four remnant wastewater treatment pits were also discovered in October 2012 during remedial injection activities. Similar to the degreaser pit, these pits had been covered with concrete during plant closure activities but had not been completely cleaned out and filled prior to being closed. Sampling indicated the presence of solids and liquids impacted by varying concentrations of chlorinated volatile organic compounds (CVOCs). Therefore, in August 2013, a total of approximately 170 tons of impacted solids were removed from the pits and disposed of offsite, the pits were cleaned and a total of 464 gallons of infiltrated water and cleaning

liquids were also disposed of offsite. The bottom of each pit was then removed in case future injections were proposed in the area and the pits were backfilled with gravel.

- Significant gains have been made at reducing the source area concentrations in groundwater. The concentrations of trichloroethene (TCE) under the RBTC building in the primary source area have decreased over an average of 93% since May 2012 (based on groundwater samples collected in October 2014). During the May 2, 2012 indoor air sampling event that occurred in the former RBTC building, the highest concentration of TCE from the indoor air samples collected in the RBTC Building was 13.4 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) collected from IA-2, an indoor air sample collected in the Henry Filter Pit Room. The closest monitoring well to IA-2 is TW-11. In June 2012, the concentration of TCE at TW-11 was 73 milligrams per liter (mg/L); however, in October 2014, after the two remedial events, the concentration of TCE was 0.019 mg/L.
- Significant gains have been made at reducing the onsite plume concentrations in groundwater. Several wells are located on the property line adjacent to the residential properties to the east, including MW-21 and MW-22 which are adjacent to the Cirillo property. The concentration of TCE in both these wells has decreased over 99% since May 2012. TCE concentrations have decreased from 9.8 mg/L (June 2012) to 0.0052 mg/L (October 2014) in MW-22 and have decreased from 0.15 mg/L (June 2012) to 0.0014 mg/L (October 2014) in MW-21.
- The former RBTC building is not occupied. While it is acknowledged that site use has changed over the years at the former RBTC building, the building is not presently occupied. A computer sales store was located in a front office area for approximately a year; however, the business moved out of the building during 2014. According to the current owner, Mr. Marty Higdon, the building is currently used only for storage. Any one individual would likely only be inside the building accessing stored materials, for at most, up to 4 hours per week.
- The Kiper house has been demolished and the Milliner house is unoccupied.

The following provides the initial rationale and response to the items requested in the KDWM's directive letter dated January 22, 2015.

1. Cirillo and Milliner Properties

*The Division requests that offsite air sampling be conducted at the Cirillo and Milliner properties. The Division understands that the property owners have rejected past requests from both Bosch and the Division for access. The Division will attempt to contact the property owners for access approvals.*

### RBTC Response

A work plan will be submitted which includes crawl space air sampling at both the Cirillo and Milliner properties, assuming the KDWM is successful at securing access. Amec Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler, formerly AMEC) has concluded from a limited visual assessment that both houses have crawl spaces and that only the Cirillo house is presently occupied. When evaluating the groundwater to indoor air pathway, a step-wise investigation is the accepted industry approach; however, given that a soil gas survey was previously conducted on the Barton property, it is proposed that two air sampling events be conducted in the crawl space of each house, one during the winter directly after approval of the work plan and one during summer 2015. Crawl space air sampling will be less intrusive to residents, is a reasonable first approach and will be a useful representation of concentrations of TCE in an enclosed space under the house without the concern of sample contamination from TCE source items stored within the house. A full description of the proposed sampling methods will be included in the formal work plan; however, to briefly summarize, during each event multiple air samples will be collected in the crawl space of each house using individually certified Summa® canisters. Ambient air samples will also be collected upwind of each house. All samples will be analyzed for TCE. Assuming no attenuation from crawl space to indoor air, the sample results will be averaged and compared to the residential Accelerated Response Action Level (ARAL) and residential Urgent Response Action Level (URAL) outlined in the July 9, 2014 USEPA Memorandum on TCE as well as the ambient air (background) results. Interior house air sampling will only be conducted if the representative crawl space concentration for the property exceeds the ARAL AND background result, if detected, for both sampling events.

### 2. Barton Property

*The Barlow property crawl space sample CSA-3 result was  $2.0 \mu\text{g}/\text{m}^3$  for trichloroethylene (TCE). According to the attached USEPA document,  $2.0 \mu\text{g}/\text{m}^3$  is the action level for TCE. A sampling plan should be submitted to determine if seasonal variations have any effect on air concentrations. Also, an indoor air sample should be acquired from the Barlow property.*

### RBTC Response

Air samples were collected over two separate sampling events in the Barton crawl space during May and June 2012. While there was one detection of TCE equal to the residential ARAL of  $2 \mu\text{g}/\text{m}^3$  in the crawl space, the background ambient sample collected the same day was  $1.4 \mu\text{g}/\text{m}^3$ . During the second sampling event, TCE was only detected in one sample and that detection was less than the ambient air sample collected the same day (ambient sample TCE concentration was  $0.83 \mu\text{g}/\text{m}^3$  versus the detected crawl space sample TCE concentration of  $0.49 \mu\text{g}/\text{m}^3$ ). In addition, the concentration of TCE within the crawl space averaged over both sampling events was  $0.66 \mu\text{g}/\text{m}^3$  (which includes one duplicate and which conservatively assumes samples without detections had concentrations equal to the detection limit). Even though the 2012

sampling event determined no unacceptable risk to tenants within the structure on the Barton property, it is acknowledged that concentrations can change over time; therefore, a work plan will be submitted that includes air sampling from the crawl space beneath the Barton residence as well as ambient air sampling. Since an access agreement has been executed for the Barton property, no access issues are anticipated; however, prior to the sampling event, Amec Foster Wheeler will confirm access is still granted to representatives of RBTC. The air sampling will be conducted in the crawl space in a similar fashion to the preliminary sampling rationale described above for the Cirillo and Milliner properties. Indoor air quality (IAQ) sampling of the Barton house will only be conducted if the representative crawl space concentration for the property exceeds the ARAL AND background, if detected, for both sampling events.

### 3. Former RBTC Building

*The indoor air samples for the former Vermont American building are above the USEPA commercial/industrial levels for TCE (see attached July 9, 2014 USEPA document) additional sampling should be performed. Also, samples from location where current workers are present should be acquired. This sampling should be expedited and appropriate measures taken if USEPA levels are found to be exceeded where employees are present.*

### RBTC Response

Based on the calculations in the July 9, 2014 USEPA Memorandum, the Commercial/Industrial ARAL and URAL are calculated as a time-weighted average based on the length of a work day. Given that the building is only occupied approximately four hours each week by any one individual, the site-specific ARAL, based on the USEPA's time weighted average calculation, would be  $84 \mu\text{g}/\text{m}^3$ . Given the removal of source areas inside the building, the significant reduction of TCE concentrations in groundwater under the building and the recalculated ARAL based on the occupancy status of the building, there does not appear to be a current hazard to site occupants. It is Amec Foster Wheeler's opinion that IAQ sampling in the former RBTC building is not warranted at this time. Should the occupancy of the building change in the future, a new building-specific ARAL will be calculated and compared to the 2012 results. If exceedances are noted, then additional IAQ samples may be warranted at that time.

### 4. Campbell Hausfeld (C-H) Property

*The western portion of the TCE groundwater plume appears to extend under the Campbell Hausfeld property. At this time the Division requests that an air sample be acquired from inside the Campbell Hausfeld building near the east wall. The Division will coordinate with the USEPA lead on acquiring access at the Campbell Hausfeld facility.*

### **RBTC Response**

According to a report titled *Evaluation of Groundwater Contamination along the Eastern Property Line of the Campbell Hausfeld Facility* dated April 2003 and prepared by Kenvirons, Inc., chlorinated solvents with measurable concentrations of TCE have been used on the C-H property. While the highest detections of TCE are predominant on the eastern property boundary shared with the former RBTC property, TCE has also been detected in varying concentrations in other wells on the C-H property, including almost all of the recovery wells (RS wells). In addition, detection limits for TCE are routinely well over 1 mg/L and in some cases over 20 mg/L in the wells closest to the C-H source area (MW-2s and MW-36s); therefore lower concentrations of TCE would not be reported in the source area even if present as a mixed part of the C-H source plume. Because TCE is documented to be present on the C-H property in areas other than the eastern property boundary, and reports prepared by their own consultant acknowledge TCE was present in mixed products used on their site, it is not appropriate for RBTC to be responsible for IAQ sampling on the C-H property.

### **5. Leggett & Platt property**

*Groundwater wells located down gradient and on the Leggett & Platt property are requested to determine the horizontal extent of the groundwater plume. The Division understands that the property owners have rejected past requests from both Bosch and the Division for access. The Division will contact the property owner to discuss issues with access.*

### **RBTC Response**

If access can be arranged by KDWM to install monitoring wells on the Leggett & Platt property, downgradient monitoring wells will be installed. If access is secured, Amec Foster Wheeler will submit a work plan at that time for the additional investigation based on Leggett & Platt's input on well locations and any site-specific negotiated access agreement terms.

A work plan can be submitted for the items indicated above within 20 calendar days of receipt of a response to the letter from the KDWM.

As always, should you have any questions regarding the above responses to you January 22, 2015 correspondence, please do not hesitate to contact us.

Sincerely,

STITES & HARBISON PLLC

  
W. Patrick Stallard

WPS:cad

cc: Christopher Jung via email (Christopher.Jung@ky.gov) and First Class Mail